

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently Amended) A field emission display, comprising:
2 first and second substrates provided opposing one another with a predetermined gap
3 therebetween to form a vacuum assembly;
4 electron emission sources provided on one of the first and second substrates;
5 an electron emission inducing assembly inducing the emission of electrons from the electron
6 emission sources; and
7 an illuminating assembly provided on the other one of the first and second substrates not
8 including the electron emission sources being formed, the illuminating assembly realizing images
9 by the emission of electrons from the electron emission sources,
10 with the electron emission sources including a carbon nanotube layer and a base layer, said
11 base layer having an outer surface that includes prominences and depressions, the base layer formed
12 between the carbon nanotube layer and the one of the first and second substrates on which the
13 electron emission sources are provided and having conductivity for applying a voltage to the carbon
14 nanotube layer required for the emission of electrons, the carbon nanotube layer comprising a
15 plurality of carbon nanotubes, and
16 with the base layer having a predetermined thickness, and the carbon nanotube layer being

provided on the base layer in a state substantially un-mixed with the base layer, the carbon nanotubes formed on both of the prominences and the depressions,

wherein the base layer comprises:

an adhesive material realized through a glass frit that selected from the group consisting of PbO, SiO₂, Ba₂O₃, and a mixture thereof; and
a metal conductive material selected from the group consisting of silver, copper, and aluminum.

2. (Original) The field emission display of claim 1, wherein the electron emission inducing assembly comprises:

cathode electrodes formed in a stripe pattern on one of the first and second substrates having the electron emission sources provided, the electron emission sources being provided on an outer surface of the cathode electrodes;

an insulating layer formed covering the cathode electrodes at all areas except where the electron emission sources are formed; and

gate electrodes formed on the insulating layer in a stripe pattern and in a direction substantially perpendicular to the cathode electrodes, the gate electrodes including holes for exposing the electron emission sources.

3. (Original) The field emission display of claim 1, wherein the electron emission inducing assembly comprises:

3 gate electrodes formed in a stripe pattern on one of the first and second substrates provided
4 with the electron emission sources;

5 an insulating layer formed over an entire surface of one of the first and second substrates
6 provided with the electron emission sources and covering the gate electrodes; and

7 cathode electrodes formed on the insulating layer in a stripe pattern and in a direction
8 substantially perpendicular to the gate electrodes, the electron emission sources being formed on an
9 outer surface of the cathode electrodes.

1 4. (Original) The field emission display of claim 1, wherein the illuminating assembly
2 comprises:

3 an anode electrode formed on the substrate on which the electron emission sources are not
4 formed; and

5 phosphor layers formed on an outer surface of the anode electrode.

Claims 5-7. (Canceled)

Claim 8. (Canceled)

1 9. (Previously Presented) The field emission display of claim 1, wherein the base layer
2 includes spherical particles with a diameter of 0.05 to 5 μ m below the carbon nanotube layer.

1 10. (Original) The field emission display of claim 9, wherein the spherical particles are
2 conductive metal particles selected from the group consisting of silver, copper, and aluminum.

1 11. (Previously Presented) The field emission display of claim 1, further comprising a thin
2 film formed between the base layer and the one of the first and second substrates, the thin film
3 having prominences and depressions, the prominences of the thin film having 0.05 to 10 μ m width,
4 0.01 to 5 μ m depth and 1 to 20 μ m intervals.

1 12. (Original) The field emission display of claim 11, wherein the thin film is formed of
2 indium tin oxide or chrome.

1 13. (Original) The field emission display of claim 1, wherein a carbon nanotube density of
2 the carbon nanotube layer is 100 to 1,000,000 times a carbon nanotube density of the base layer.

1 14. (Original) The field emission display of claim 1, wherein the base layer is formed at a
2 thickness of 0.05 μ m to 5 μ m.

Claims 15-17. (Canceled)

1 18. (Withdrawn) A method for forming electron emission sources for a field emission
2 display, comprising:

3 screen printing a first mixture including an adhesive material, a conductive material, and a
4 vehicle on a substrate and then drying the first mixture;

5 screen printing a second mixture including carbon nanotube powder and a vehicle on the first
6 mixture and then drying the second mixture; and

7 baking the first and second mixtures to fuse the adhesive material of the first mixture, and
8 to evaporate organic elements in the first and second mixtures.

1 19. (Withdrawn) The method of claim 18, with the adhesive material having conductivity
2 selected from the group consisting of silver, nickel, aluminum, gold, cobalt, and iron.

1 20. (Withdrawn) The method of claim 18, wherein with the metal conductive material
2 selected from the group consisting of silver, copper, and aluminum.

1 21. (Withdrawn) The method of claim 18, wherein:
2 the adhesive material is realized through a glass frit selected from the group consisting of
3 PbO, SiO₂, Ba₂O₃, and a mixture thereof; and
4 the metal conductive material is selected from the group consisting essentially of silver,
5 copper, and aluminum.

1 22. (Withdrawn) The method of claim 18, further comprising of:
2 coating a conductive film on cathode electrodes;

3 coating a photoregister on the conductive film at a thickness in the range of 1 to 5 μm ;
4 patterning a photoresist at 1 to 20 μm intervals to accommodate the exposure of the
5 conductive film; and
6 etching portions of the conductive film by an etching solution to expose portions of the
7 conductive film to accommodate the formation of protrusions and depressions at intervals of 1 to
8 20 μm , a depth of 0.01 to 5 μm and a width of 0.05 to 10 μm .

1 23. (Withdrawn) A method for forming electron emission sources for a field emission
2 display, comprising:

3 screen printing a first mixture including an adhesive material, a conductive material, a
4 photosensitive resin, a photoinitiator, and a vehicle on a substrate and then drying the first mixture;

5 screen printing a second mixture including carbon nanotube powder, a photosensitive resin,
6 a photoinitiator, and a vehicle on the first mixture and then drying the second mixture;

7 developing portions of the first and second mixtures to selectively harden the first and second
8 mixtures;

9 patterning the first and second mixtures by removing area not hardened through the
10 developing process; and

11 baking remaining areas of the first and second mixtures to fuse the adhesive material of the
12 first mixture, and to evaporate organic elements in the first and second mixtures.

Claims 24-41. (Canceled)